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# Dual Use Technology Programs

5 & 15 June 2006



SUPERIOR TECHNOLOGY



FOR A



SUPERIOR ARMY



**RDECOM**

**ZACOM**  
The Soldier and Ground Systems  
Life Cycle Management Command

**TARDEC**  
U.S. ARMY TANK AUTOMOTIVE RESEARCH, DEVELOPMENT AND ENGINEERING CENTER



# Agenda

- TARDEC Intro
- Cooperative Research and Development Agreements (CRADA)
- Small Business Innovation Research (SBIR)
- TACOM Acquisition Center (Contracting office)
- Q & A





# MISSION

To research, develop, engineer, leverage and provide advanced systems integration of technology into ground systems and support equipment throughout the life cycle.



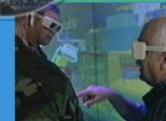
SUPERIOR TECHNOLOGY



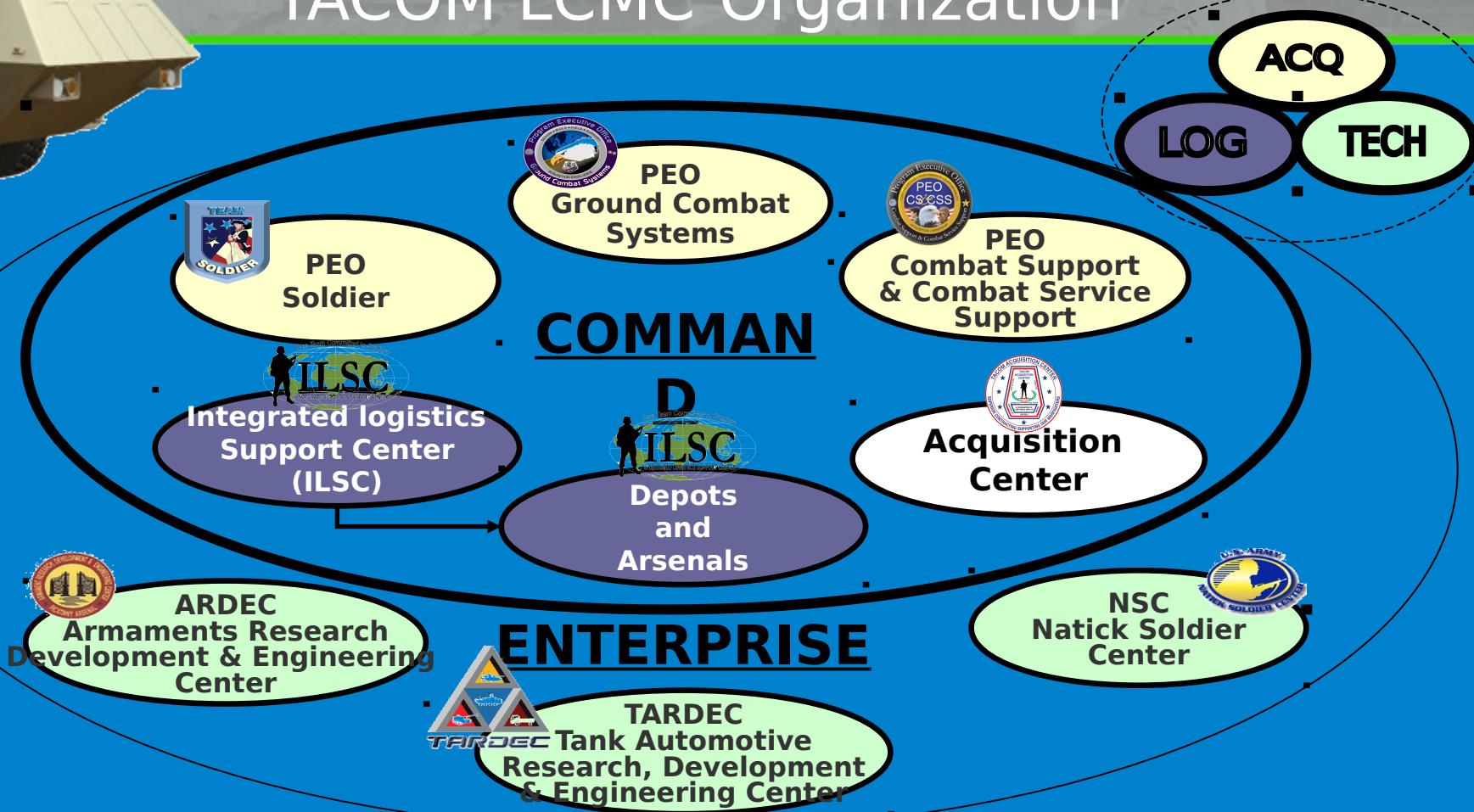
FOR A



SUPERIOR ARMY



# TACOM LCMC Organization



The TACOM LCMC integrates Army Acquisition, Logistics, and Technology (ALT) responsibilities, authorities, and processes to provide the best possible support to warfighters and one voice to the customer.



# SEVEN PRINCIPAL PRODUCT LINES

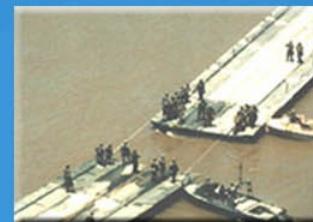
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LOGISTICS EQUIPMENT



COUNTERMINE



MILITARY BRIDGING



FUELS & LUBRICANTS



WATER GENERATION  
& PURIFICATION



COMBAT & TACTICAL VEHICLES



FUEL STORAGE  
& DISTRIBUTION





# STATE OF THE ART LABS

SUPERIOR TECHNOLOGY FOR A SUPERIOR ARMY

ADVANCED COLLABORATIVE ENVIRONMENTS

ADVANCED CONCEPTS LAB

ADVANCED MATERIALS &  
MANUFACTURING CENTER

BRIDGING

PHYSICAL PROTOTYPING

ROBOTICS

CREW STATION & EMBEDDED SIMULATION

PROPELLION

FUELS & LUBRICANTS

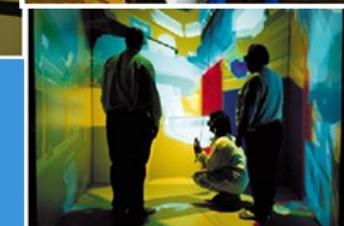
TRACK & SUSPENSION

WATER

LASER PROTECTION

ELECTRONICS ARCHITECTURE

NEXT GENERATION SOFTWARE



**TARDEC**

U.S. ARMY TANK-AUTOMOTIVE RESEARCH DEVELOPMENT AND ENGINEERING CENTER



# DUAL NEEDS FOCUS

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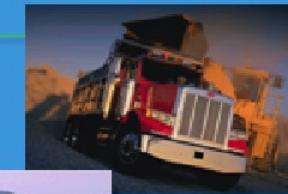


**COLLABORATIVE  
ENVIRONMENT**

**DUAL - USE**

««COOPERATIVE AGREEMENTS»»

««COMMON SPECIFICATIONS»»



# TARDEC/NAC office at Automation Alley





**CRADA**

# **Cooperative Research And Development Agreement**





# CRADA Program History & Law

- Created by the Federal Technology Transfer Act of 1986
- Extends to all government-owned laboratories
- Defined in U.S. Code, Title 15, Section 3710a
- Not a procurement contract; Federal Acquisition Regulations do not apply



# CRADA - Overview

- Between Government Laboratories and commercial, academic, government or association partners;
- Facilitate technology transfer between the parties;
- Help to improve U.S. competitiveness;
- Partner contributes personnel, services, property and funding; Government contributes all the above, except funding.



# CRADA - Features & Benefits

- **Quick** - Typically established within 60 days of initiation.
- **Flexible** - Leveraging of resources; each party pays for their tasks under flexible Statement of Work (SOW).
- **Mutually Beneficial** - Encourages cooperative R&D; industry interests and technology transfer; partner has option to license technology Army invents under the CRADA.
- **Safe** - Proprietary information protected; all intellectual property developed under CRADA belongs to inventing party.
- **Simple** - Conditions and basic rights set forth in clear and simple language. There are no matching funds mandated under a CRADA.



## CRADA - Miscellaneous

- **Duration** - Typically 3 years; renewable.
- **Termination** - Upon expiration, by mutual consent, or unilaterally (with written notice).
- **Multiple CRADAs** - A partner may have more than one CRADA with TARDEC simultaneously.
- **Special Agreements**
  - Master Agreement: many SOW's under one contract
  - 3-way: more than one partner
  - Foreign partner: requires approval from trade rep.



# **CRADA - Current Agreements**

**Alberici Constructors**

**Altair Engineering**

American Trucking Assoc.

**Automation Alley**

Columbia University

Dana Corp.

**Delphi**

**Detroit Public Schools**

Drive Dynamics LLC

**DTE**

**Eaton Corp.**

**FiberForm, Inc.**

**General Dynamics Land Systems**

**General Motors Corp.**

**Hybra-Drive Systems**

Ibis Tek

International Truck

**Intrepid World Communications**

**Jadi**

**Kettering University**

Kuchera Defense Systems

**Link Testing Labs**

LMS North America

**Macomb County (MI)**

**Mirror Lite Company**

**MotorCities Nat'l Heritage**

**Nartron Corp.**

National Biodiesel Board

**National Center for Mfg Sciences**

**NextEnergy**

**Oakland County (MI)**

Precision Combustion

PREDICT

**RaeBeck Automotive**

**SiNeramics**

Smiths Aerospace

TeraBurst Networks

United Defense

U.S. FIRST

**Waltonen Engineering**

**Wayne County (MI)**

**Wayne State University**

# CRADA - Info Tri-Fold



## TARDEC

### Focus

TARDEC's mission is to research, develop, engineer, leverage and integrate advanced technology into ground systems and support equipment throughout the life cycle.

TARDEC is focused on partnering with our customers, industry and academia to harness new technologies for emerging systems, reduce operating and maintenance costs of fielded systems, and assure that our soldiers have the best performing, most reliable, and easiest to maintain ground vehicles in the world.

## Information

**U. S. Army TARDEC  
National Automotive  
Center**

**AMSRD-TAR-N/MS 289  
Warren, Michigan  
48397-5000**

### Points of Contact:

**Pete DiSante, 586-574-8958  
[disantep@tacom.army.mil](mailto:disantep@tacom.army.mil)**  
**Doug Miller, 586-574-**

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**TARDEC**  
TANK AUTOMOTIVE RESEARCH, DEVELOPMENT AND ENGINEERING CENTER

## Cooperative Research And Development Agreement (CRADA) Program



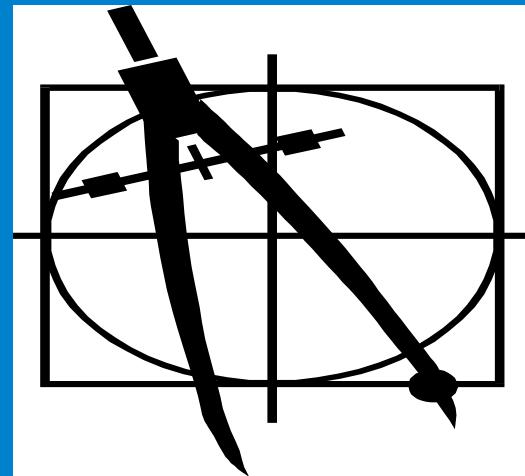
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**SBIR**

# **Small Business Innovation Research (SBIR)**



**Successfully Transferring New  
Technology  
from Concept to Market**

## Small Business Innovation Research Program (SBIR) - Definition:

- An Extramural Program Reserved for Small Business
- Set-aside program for small business concerns to engage in federal R&D -- with potential for commercialization.



# **SBIR Program History & Law**

## **Why SBIR?**

**Small Business Innovation Development Act  
of 1982**  
**Congress designated 4 major goals**

- **Stimulate technological innovation.**
- **Use small businesses to meet Federal R & D needs**
- **Foster & encourage participation by socially and economically disadvantaged small businesses.**
- **Increase private sector commercialization of innovations derived from Federal R & D, thereby increasing competition,**



# **SBIR Program History & Law**

- **Government-wide Program established by Congress in 1982 to promote small business participation in Federal Research and Development (R&D)**
- **P.L. 102-564; Signed 10/28/92. The SBIR R&D Enhancement Act of 1992 extended the SBIR Program until Oct 2000.**
- **P.L. 106-554; Signed 12/21/00. The Act HR 5667 of December 2000 extended the Program until 2008.**
- **DOD SBIR Program administered in accordance with Small Business Administration (SBA) SBIR Policy Directives**



# SBIR - Benefits

- **Serves Army R&D needs by identifying and funding innovative projects proposed by the small business community**
- **Allows Army Labs & RDECs to tap into advanced technologies of small firms**
- **Dual use technologies**
- **DoD funds feasibility studies and R&D of innovative technologies**
- **Industry develops & markets new products**
- **Visit [www.acq.osd.mil/sadbu/sbir](http://www.acq.osd.mil/sadbu/sbir) for more details**



# SBIR - Cycle

- Call for topics
- Topic review (Local Command/Army/DoD)
- Topic selection
- Solicitation pre-release
- Solicitation opens (discussion & preparation of new proposals)
- Solicitation closes (proposals submission)
- Phase I proposal evaluations
- Phase I recommendations/selections for awards
- Negotiate/award Phase I contracts (6 month performance)
- Invite performers to submit Phase II proposal
- Phase II proposal evaluations
- Phase II recommendations/selection for awards
- Exercise Phase I option (4 month performance)
- Negotiate/award Phase II contracts (2-year performance)
- Phase III - Commercialization



# SBIR - Features

# **Current Army solicitation announced on Web 1 MAY 2006**

## PHASE I

**PHASE I**  
<http://www.acq.osd.mil/sadbu/sbir/solicitations/sbir062/in>  
**Feasibility Study      dex.htm**  
**\$100K and 6 months (Army \$70K)**  
**(Army \$50K Option)**

# PHASE II

# Full R/R&D

**2 - Year Award and \$750K (Army  
\$730K)**

# **PHASE III**

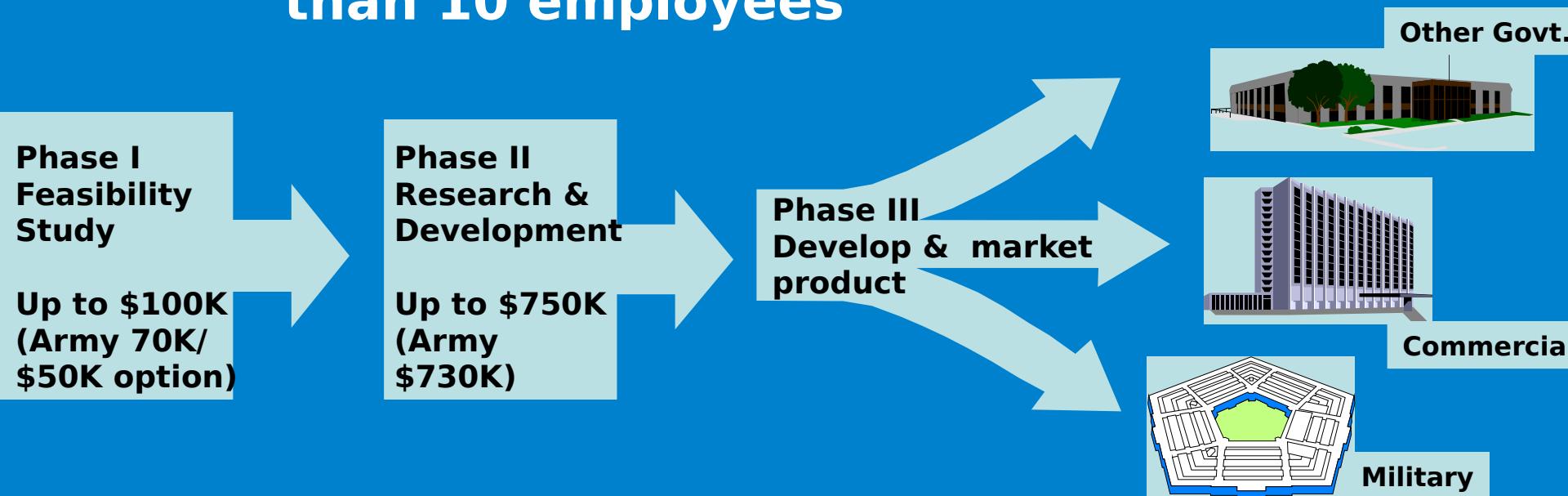
# **Commercialization Stage**

## **Use of non-SBIR Funds**



# SBIR Program

- **Uses a three-phase approach, involving projects of innovative technology application, and high technical risk**
- **Army only participates in the annual Spring solicitation**
- **Most SBIR Participants are firms of fewer than 10 employees**





# SBIR Program - Fast Track

## Incentive Program

- Accelerated Phase II process for Phase I contractors with investors matching Phase II SBIR funding
- Provides incentive to build strategic partners for Phase III investment and marketing as early as Phase I
- Benefits of the process:
  - Interim funding up to \$50,000 between Phase I and II
  - Expedited Phase II evaluation, selection and award
- Qualifications:
  - Fast Track application 120 days after Phase I award
  - Independent investor commitment for funds in cash
- Matching Rates: 4:1 matching-new firms, 1:1 others

Visit <http://www.acq.osd.mil/sadbu/sbir/fasttrack/index.html>



# **SBIR Program - Phase II Plus**

## **Incentive Program**

- **Phase II enhancement program**
  - Further extend the transition of R&D efforts into Army acquisition as well as the private sector
  - Accelerate the Phase II project into Phase III
- **SBIR matching third-party funds up to \$500k**
- **Extension of Phase II project up to one year**
- **Applications 3 months prior to the end of Phase II**

Visit [\*\*http://www.oro.army.mil/arowash/rt/sbir/sbir\\_phaseii\*\*](http://www.oro.army.mil/arowash/rt/sbir/sbir_phaseii)



# **SBIR Program - Time Table**

## **PHASE I**

<b>Topic Generation(TARDEC)</b>	<b>OCT-DEC 2005</b>
<b>Topic Generation(Army-DoD)</b>	<b>DEC 2005 - APR 2006</b>
<b>Topic Pre-release on Web</b>	<b>01 MAY 2006</b>
<b>Solicitation Opens</b>	<b>14 JUN 2006</b>
<b>Solicitation Closes</b>	<b>14 JUL 2006</b>
<b>Proposal Evaluation</b>	<b>JUL - SEP 2006</b>
<b>Negotiate Contracts</b>	<b>OCT - NOV 2006</b>



# **SBIR Program - Time Table**

## **PHASE II**

<b>Invite Proposals</b>	<b>06 MAR 06</b>
<b>Proposals Due</b>	<b>05 APR 06</b>
<b>Proposal Evaluations</b>	<b>mid APR - end MAY</b>
<b>06</b>	
<b>Phase II Selection</b>	<b>mid JUN 06</b>
<b>Phase I Option Exercised</b>	<b>mid JUN 06</b>
<b>Negotiate Contracts</b>	<b>JUN - SEP 06</b>



# **SBIR - Eligibility and Limitations**

**Must qualify as small business for research as defined below:**

- **Organized for profit, with a place of business located in the United States**
- **At least 51 percent owned and controlled by one or more individuals who are citizens of, or permanent resident aliens in, the United States, or at least 51 percent owned and controlled by another business concern that is at least 51 percent owned and controlled by one or more individuals (citizens or permanent residents of the U.S)**
- **Has, including its affiliates, not more than 500 employees**

## Things to remember:

- **DoD's SBIR 2006.2 Solicitation available in HTML, PDF and MS WORD formats on the web at:**

***<http://www.acq.osd.mil/sadbu/sbir/solicitations/sbir062/index.htm>***

- **Officially opens on 6/14/06 and proposals will be due (at DoD) by 6:00 AM EST on 7/14/06**
- **The DoD topics search Web site can be found at: *<http://www.acq.osd.mil/sadbu/sbir>***



## **SBIR - Tips (cont'd)**

### **Things to remember:**

- **Pre-Solicitation opened 1 May 06. Speak directly to topic authors or submit questions on SITIS (SBIR-Interactive Topic Information System).**
- **Once solicitation begins, 14 Jun 06, questions may only be submitted through SITIS.**
- **SITIS will cease accepting questions two weeks prior to the solicitation close date .**
- **Before you submit a proposal check SITIS even if you don't need to ask a question; you should view your competitor's questions and the DoD's answers at:**



## **SBIR - Tips (cont'd)**

### **Things to remember:**

- **ALL SBIR offerors MUST register electronically via the Web at:  
<http://www.dodsbir.net/submission/>**
- **Via the same Web site you will submit:**
  - a) **DoD Proposal Cover Sheet (cover and summary abstract),**
  - b) **ENTIRE Technical Proposal with any appendices,**
  - c) **Cost Proposal, and the**
  - d) **Company Commercialization Report**



## **SBIR - Tips (cont'd)**

### **Things to remember:**

- **DoD requires proposals submitted in PDF format only.**
- **DoD Help Desk Phone: 866-SBIRHLP (866-724-7457)**
- **A facility to submit e-mail questions can be found at <http://www.dodsbir.net/helpdesk/>**



## **SBIR - Tips (cont'd)**

**Things to remember:**

**Phase I options:**

- **Allowed by Army (up to \$50K)**
- **Should be fully costed separately from the Phase I (base) approach**
- **Should have separate work plan from Phase I**
- **Both cost proposal and work plan needs to be part of Phase I proposal**

# SBIR - Info Tri-Fold



## TARDEC Focus

The mission of the **Tank-Automotive Research, Development, & Engineering Center (TARDEC)** is to research, develop, engineer, leverage and integrate advanced technology into ground systems and support equipment throughout the life cycle. TARDEC is focused on partnering with customers, industry and academia to harness new technologies for emerging systems, reduce operating and maintenance costs of fielded systems, and assure that our soldiers have the best performing, most reliable, and easiest to maintain ground vehicles in the world. The SBIR Program solves critical problems through the innovative talents of small businesses. It provides opportunities to high-tech companies and research institutes to participate in government-sponsored R&D efforts in key technology areas. The SBIR Program specifically seeks out those companies interested in automotive technologies that will contribute to the Army's mission and have potential commercial applications. The Program begins with establishing feasibility and technical merit and ends with the integrating of a product into Army programs and/or the commercial market. Requirements on how to

## Information

**U. S. Army TARDEC  
National Automotive  
Center**

**AMSRD-TAR-N/MS 289  
Warren, Michigan  
48397-5000**

[www.tacom.army.mil/tardec/](http://www.tacom.army.mil/tardec/)

### Points of Contact:

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7545**

[sandela@tacom.army.mi](mailto:sandela@tacom.army.mi)

DoD home page:

**Martin Novak, 586-574-**

SITIS home page **6730** [www.dodsbir.net/sitis](http://www.dodsbir.net/sitis)

Army home page:  
[www.aro.army.mil/arowash/rt/](http://www.aro.army.mil/arowash/rt/)

DoD help desk: 866-724-7457 (8am to



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## Small Business Innovation Research (SBIR) Program

**RDECOM**

**TACOM**  
The Soldier and Ground Systems  
Life Cycle Management Command

**TARDEC**



# SBIR & CRADA Points of Contact

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